

**A NEW *DROSOPHILA* SPECIES IN THE *MONTIUM*
MEIJERE SUBGROUP OF THE *MELANOGASTER* MEIGEN
SPECIES-GROUP IN THE SUBGENUS *SOPHOPHORA*
STURTEVANT FROM TAIWAN
(DIPTERA: DROSOPHILIDAE)**

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Abstract.—A new *Drosophila* from Taiwan, *D. austroheptica* NEW SPECIES is described and illustrated. It belongs to the *melanogaster* species-group, and is closely allied to *D. quadraria* Bock & Wheeler.

Key Words.—Insecta, Diptera, *Sophophora*, *Drosophila austroheptica*

The *Drosophila montium* Meijere subgroup was first established by Hsu (1949: 121) with the following characters: “A large tooth-bearing secondary clasper present, seemingly originated by separation from anal plate; marginal bristles of primary clasper greatly enlarged.” This diagnosis was subsequently defined more completely by Bock & Wheeler (1972).

The subgroup is by far the largest in the *melanogaster* species-group and presently accomodates 79 taxa (Lemeunier et al. 1986), occurring from the Oriental to Afrotropical regions. Seven species in the subgroup have hitherto been recorded from Taiwan: *D. ashahinai* Okada, *D. auraria* Peng, *D. bocki* Baimai, *D. jumbulina* Parshad & Paika, *D. kikkawai* Burla, *D. lini* Bock & Wheeler, and *D. quadraria* Bock & Wheeler (Chen and Lin, unpublished data). This paper describes an additional species, *D. austroheptica*.

MATERIALS AND METHODS

All the isofemale laboratory culture stocks available for this study were obtained by field collections in Nanjenshan (Kenting National Park) by either sweeping on grasses or using beer-banana traps beside streams. Stocks were reared on standard corn meal medium at 22° C and 75% RH. During the study, fresh specimens were dissected directly in a weak solution of phenol, but pinned flies were first boiled in 1N potassium hydroxide for several minutes until clear and then washed in tap water. All drawings were made with a Nikon Optiphot® drawing tube at the same magnification (ca. 200×). All dissected parts were slide-mounted.

The terminology employed in the descriptions is largely patterned after that proposed by Sturtevant (1942), although more standardized terminology for the Diptera is noted within parentheses.

DROSOPHILA (SOPHOPHORA) AUSTROHEPTICA
TSAUR & LIN, NEW SPECIES
(Fig. 1)

Types.—Holotype: male; data: REPUBLIC OF CHINA. TAIWAN. Taipei: Nankang, 25 May 1990, taken from isofemale line stock culture 0211.24 in the

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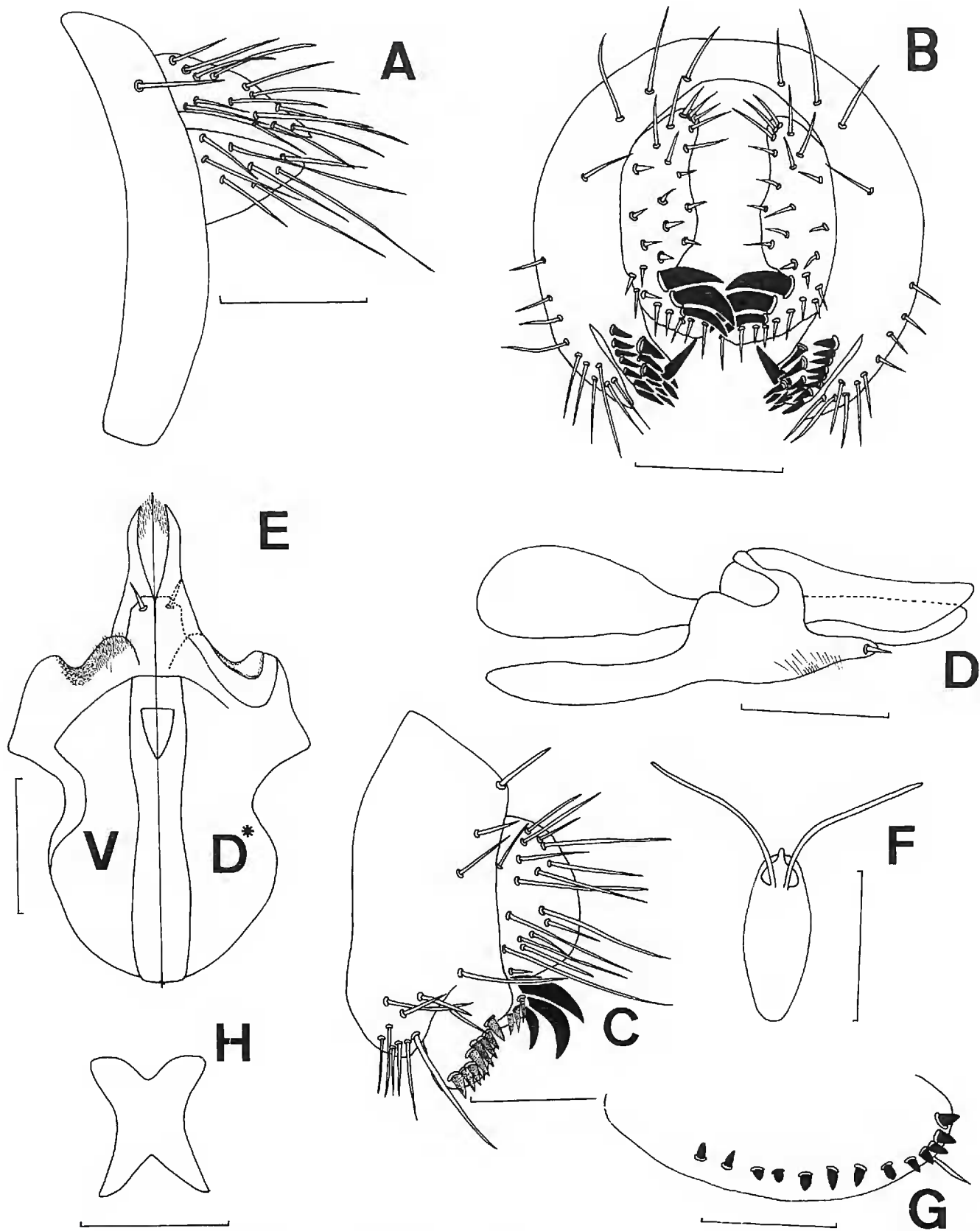


Figure 1. Genitalia and egg of *Drosophila (Sophophora) austroheptica* NEW SPECIES. A. genital arch (female), lateral view. B. caudal view (male). C. lateral view (male). Phallic organs: D. lateral view of phallic organ (male). E. ventral (V) and dorsal (D*) views of phallic organs (male). F. egg. G. egg guide (female). H. decasternum (male). (Scale lines = 1 mm.)

Institute of Zoology, Academia Sinica (originally provisioned with field material from Nanjenshan, Pingtung Hsien, 13 Nov 1989, S. C. Tsur and C. T. Ting). Paratypes: 10 males, 10 females; same data as holotype. Holotype and paratypes deposited in the Institute of Zoology, Academia Sinica, Taipei, Taiwan, Republic of China.

Male.—Body length: 2.3 mm (live specimens); wing length: 1.9 mm. Head: Antennae, second segment black-yellow, with two large setae, several medium to small setae, third segment darker.

Arista with four branches above, three below plus a terminal fork. Front pale brown, with a transverse, yellow band between antennae *orb-3* (proclinate orbital). Periorbitals moderately small, four to six. Orbitals: *orb-1* (posterior reclinate orbital) obviously nearer to *orb-3* than to inner vertical bristles; *orb-2* (anterior reclinate orbital) situated between *orb-1* and *orb-3*, closer to *orb-1* than to *orb-3* about 1:2.5, more than one-third length of *orb-1*, less than one-third length of *orb-3*. Three oral vibrissae, second almost same length of first, third about two-thirds length of others. Carina yellow-white, moderately elevated. Face dark brown. Palpi dark brown, with single apical and subapical bristles pointed downward. Proboscis entirely yellow-brown. Ocellar triangle dark brown. Ocellars normal, yellow. Ocelli orange. Eyes red, piled, slightly oblique to body axis. Maximum width of cheek about one-seventh maximal diameter of eye. Mesonotum and scutellum: Shining brown, lacking markings. Acrostichal hairs in six rows. Dorsocentral bristles with anterior four-fifths the length of the posteriors, both sets parallel; cross distance between anterior dorsocentrals about $2 \times$ distance from anteriors to posteriors. Prescutellar bristles absent. Pleurae brown, lacking stripes. Humeral two, lower longer than upper, about 1.5:1. Sternopleural bristles three. Sterno-index about 0.6. Anterior scutellar bristle parallel to convergent, slightly shorter than posteriors. Posterior scutellar bristles crossed at mid-length. Halteres tan. Legs yellow-brown, inner side of fore femur with three long bristles from mid-length to subapex, divided in equal length. Preapical bristles on all tibiae, apical bristles on first and second tibiae. Sex-comb longitudinal along entire length of first and second tarsal segments; first tarsal comb consisting of about 24 uniform teeth; comb on second tarsal segment with a similar row of about 14 teeth, all nearly same length. Abdominal tergites: Brown-yellow, segments II–IV black, segment V with or without inconspicuous yellow-brown band, all bands occupied varying from apical one-fifth to one-half, except segment V that is only slightly pigmented posteriorly. Some stout bristles on posterior margin of tergites in regular rows. Wings: Slightly grey diffused, veins brown-black. Second vein (R_{2+3}) straight. Third (R_{4+5}) and 4th veins (M_{1+2}) parallel. Two C-1 bristles. C-3 fringe on its basal half. Approximate indices: C index 2.1; 4c index 1.4; 4V index 2.3; $5 \times$ index 2.2. Periphallic organs: Genital arch (epandrium) broad laterally, ventral lobe with one long, four to five moderately long bristles, without triangular process covering base of primary clasper. Primary (surstylus) and secondary (ventral margin of cercus) claspers present. Primary clasper with a lateral row of five to six small pointed teeth and medial cluster of about 11 larger teeth, one stout and elongated. Secondary clasper with three large, curved black medial teeth and several fine setae ventrally and dorsally. Anal plate dark brown, with long bristles. Median lobe of decasternum bicornuted. Phallic organs: Brown. Aedeagus broadly rounded and finely hirsute at apex, slightly constricted subapically, lacking pointed lateral expansions. Anterior parameres large, well separated, broadly subtriangular, without minute apical sensilla. Posterior parameres spoon-shaped, long, surpassing tip of aedeagus. Ventral phragma narrowed medially, shovel-shaped. Caudal margin of novasternum (hyandrium) with hexagonal median truncated process, apically bearing two short spines.

Female. — Body length: 2.4 mm (live specimens); wing length 2.1 mm. As in male except for sexual dimorphic characters, and abdominal tergites of segments II–V with dark brown bands. Egg guide (oviscapt): Yellow-brown, with about 13 teeth and a subterminal hair. Egg filaments: Two long slender filaments.

Pupae. — Anterior spiracles with 10 branches. Horn index: 0.08.

Diagnosis. — *Drosophila austroheptica* can be separated from the other *Drosophila* of the *montium* subgroup in Taiwan by its unique combination of the following characters: secondary clasper with only two teeth and both the caudal margin of the novasternum with a hexagonal medium truncated process plus the posterior paramere extending slightly past the tip of the aedeagus.

Life Cycle. — One generation takes about 14 days at 22°C, 75% RH.

Distribution. — Only known from the type locality in Taiwan.

Etymology. — The specific name indicates that it has been collected from Southern Taiwan.

Material Examined. — (*Maintained Cultures*) Stock cultures in Academia Sinica: 0211.24 to 0211.25 (2 stocks, isofemale lines, collected from Nanjenshan, Pingtung Hsien, 13 Nov 1989 by S. C. Tsaur and C. T. Ting).

ACKNOWLEDGMENT

We sincerely thank Miss Chau-Ti Ting (National Taiwan University) for assistance in collecting specimens and laboratory work. This work has been supported by a grant from the National Science Council (NSC 79-0211-B001-31).

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Received 27 July 1990; accepted 1 November 1990.